

FIG.1

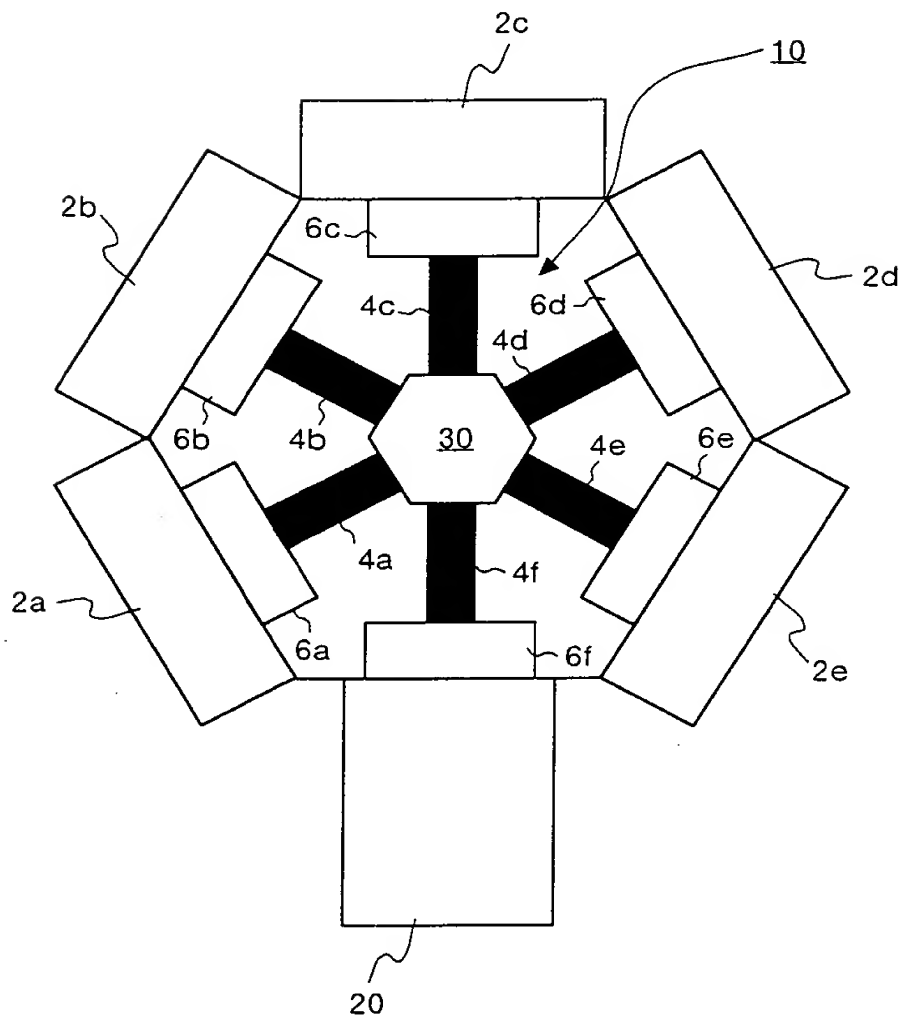
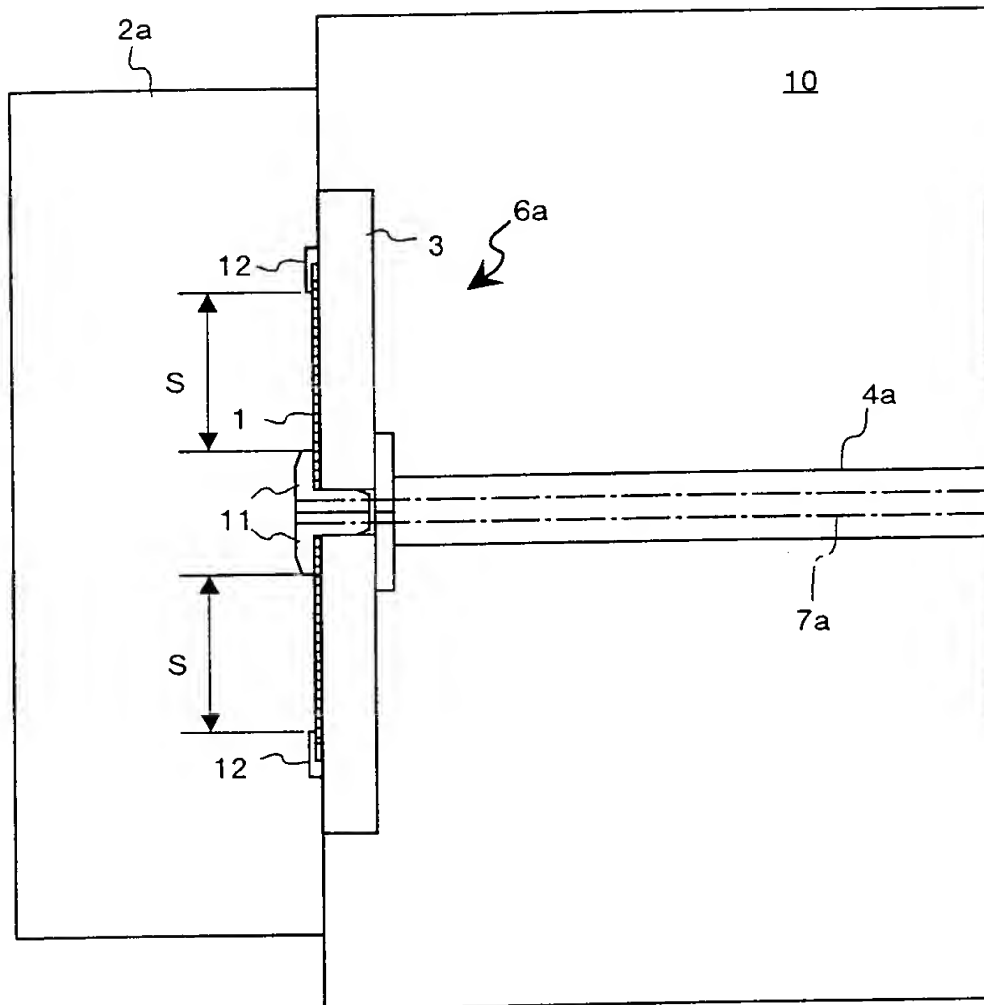


FIG.2



U.S. PAT. & TM. OFFICE
 1000 PENTAGON AVE., SUITE 900
 ARLINGTON, VA 22202-4302
 TEL: (703) 571-2800
 FAX: (703) 571-2801
 WWW.USPTO.GOV

3/38

FIG.3

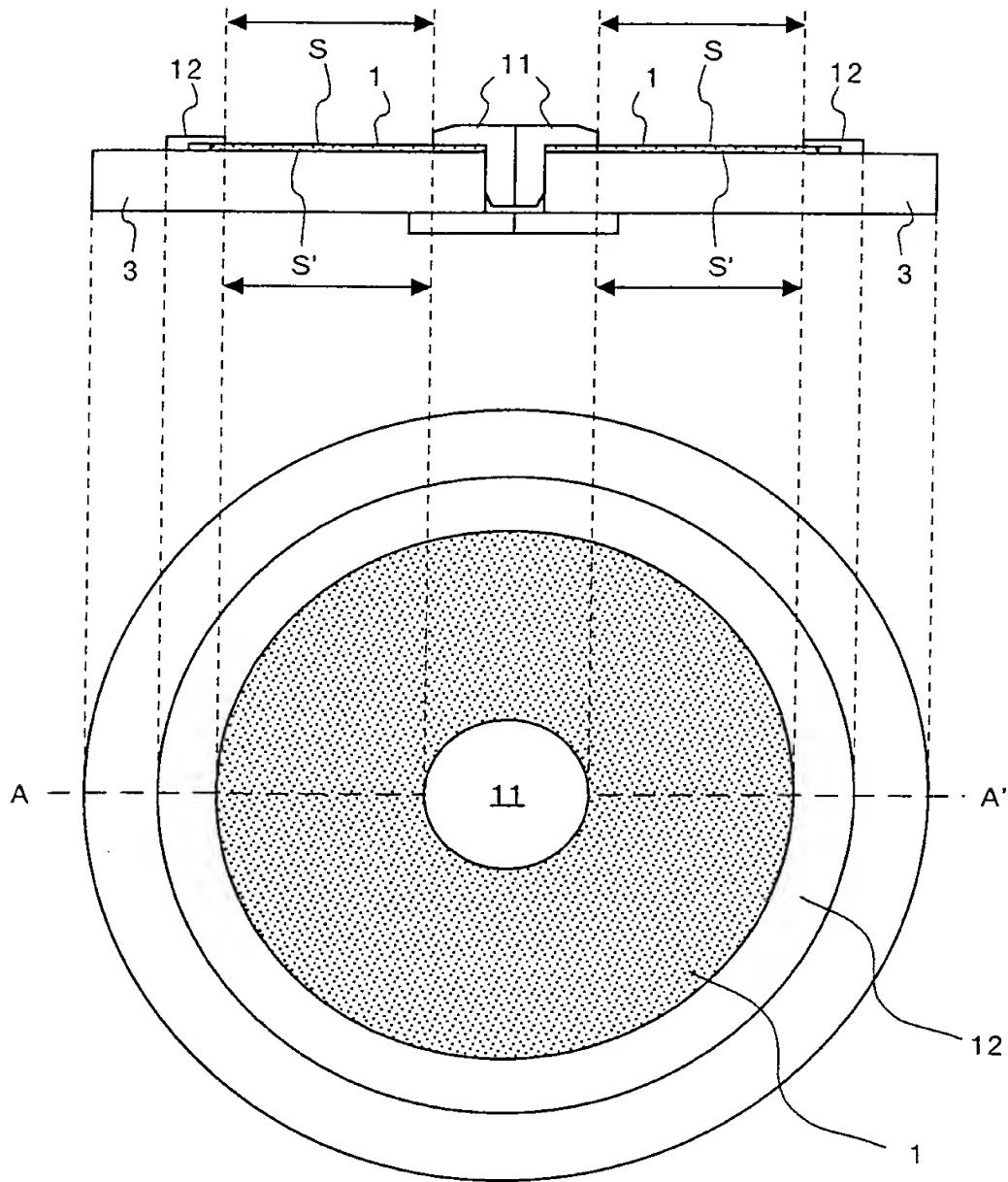


FIG. 3 is a cross-sectional and top-down view of a circular device. The top-down view shows a central circular region 11, surrounded by a shaded annular region 1, and an outer ring 12. A horizontal dashed line A-A' passes through the center. The cross-sectional view shows a central vertical structure 11, with a top layer 1 and a bottom layer 3. Dimensions S and S' are indicated for the top and bottom layers respectively. The cross-section is bounded by dashed lines 12 and 3.

4/38

FIG. 4

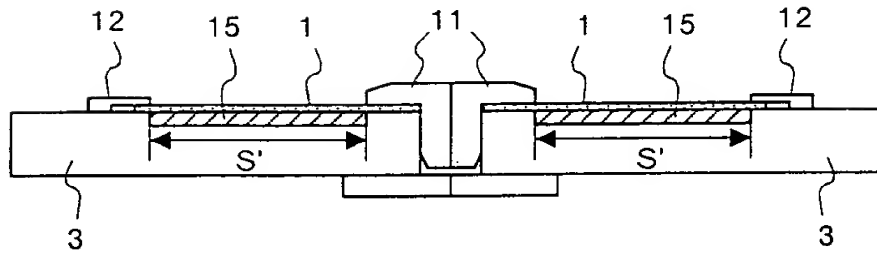


FIG. 5

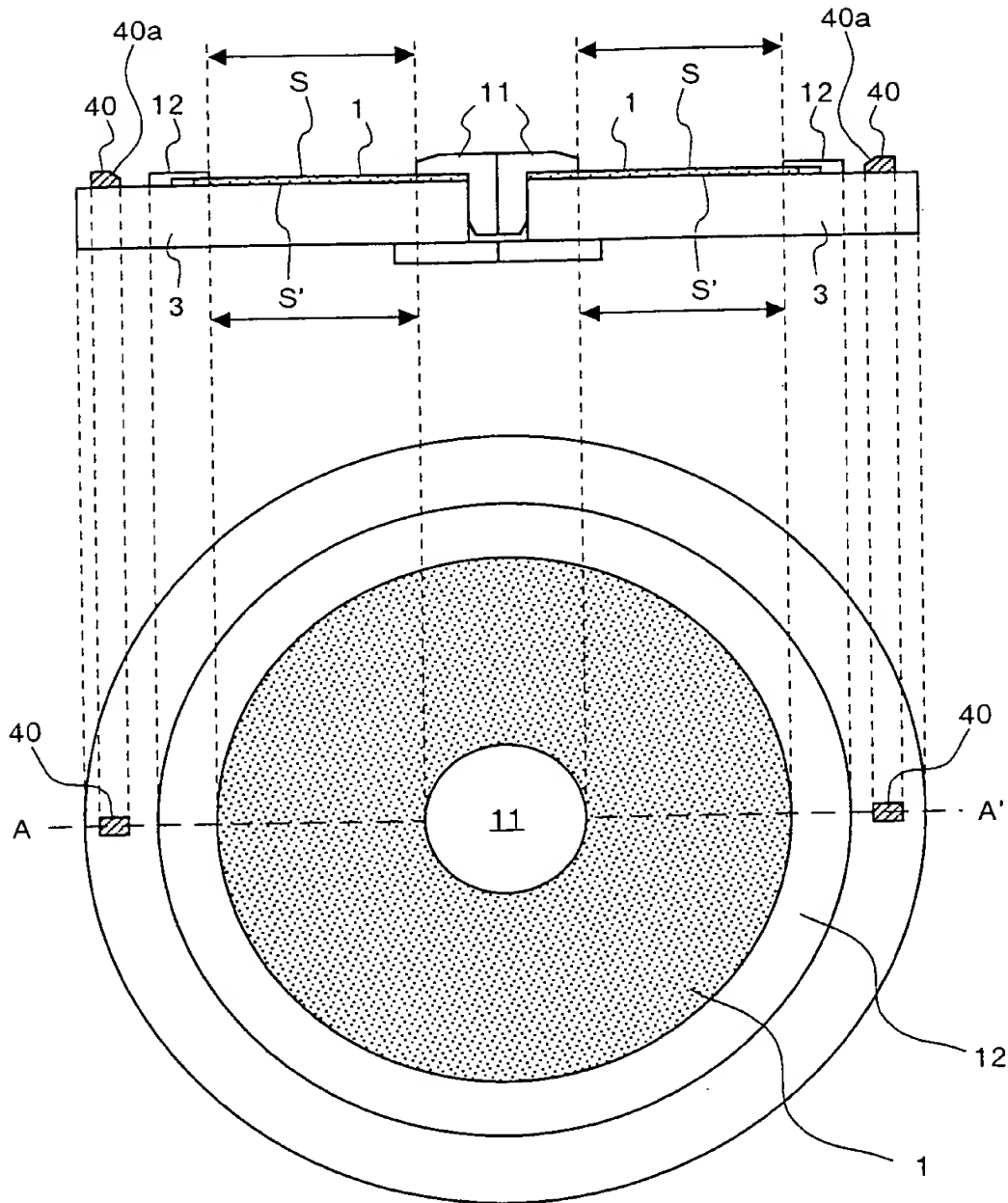
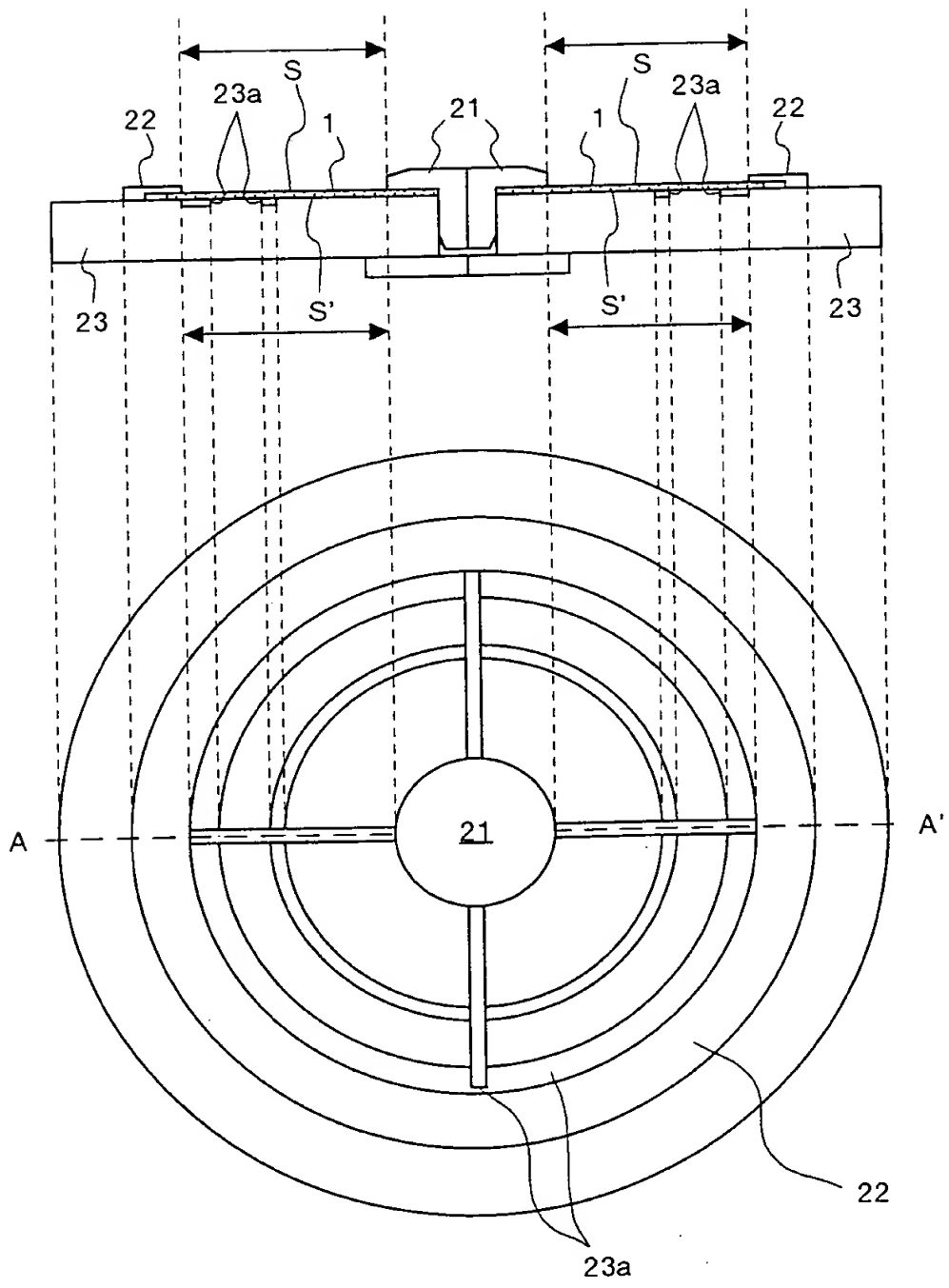


FIG.6



7/38

FIG.7

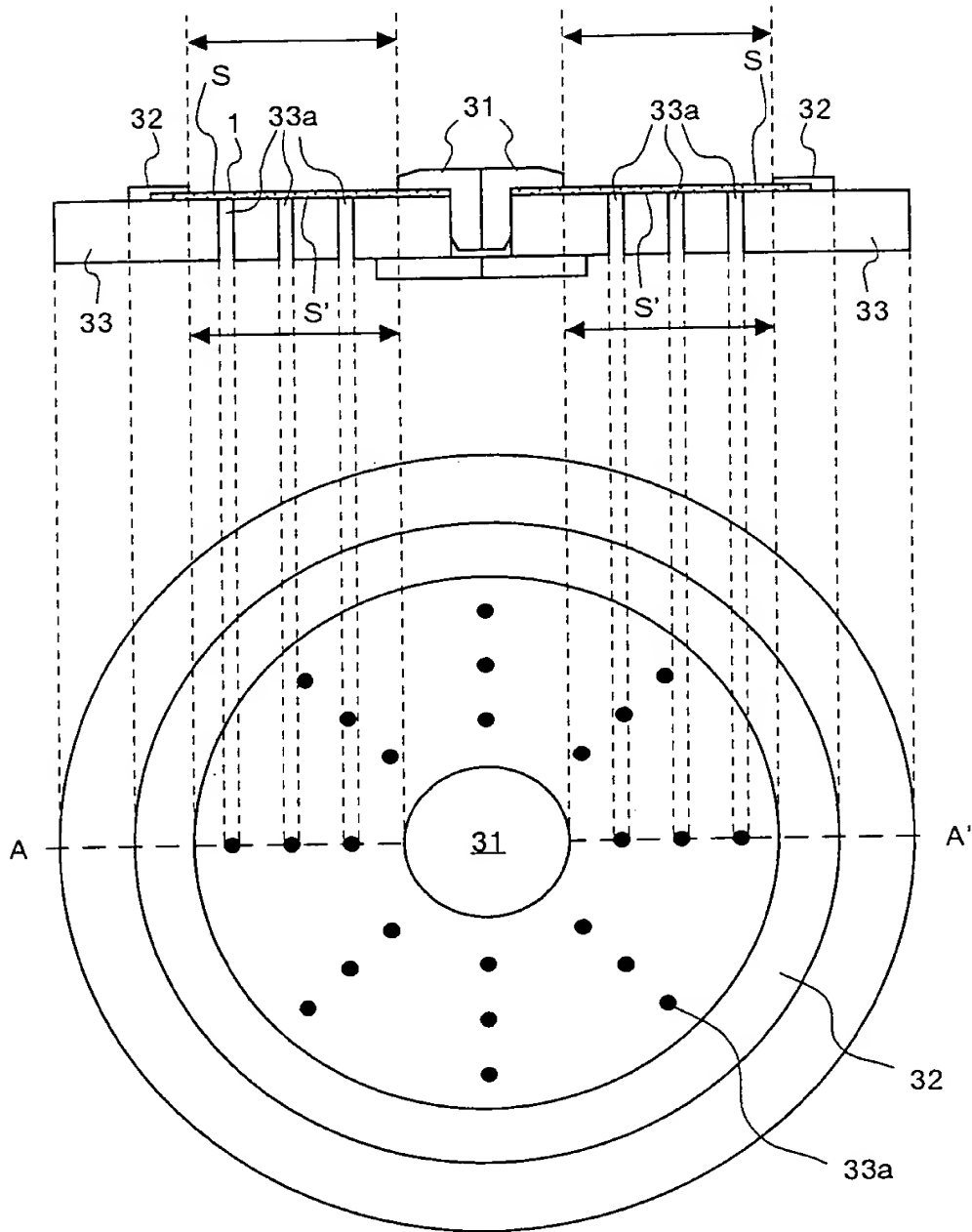


FIG.8

	THICKNESS OF SUBSTRATE			
	0.3mm	0.6mm	0.7mm	1.2mm
CONVENTIONAL MEASUREMENT TECHNOLOGY IMPOSSIBLE		-550	-540	-100
EMBODIMENT①	-350	-300	-290	-90
EMBODIMENT②	-340	-290	-280	-85
EMBODIMENT③ ₋₁	-340	-290	-280	-85
EMBODIMENT③ ₋₂	-350	-300	-290	-90

MAXIMUM WARPING AMOUNT OF SUBSTRATE [μm]

9/38

FIG.9

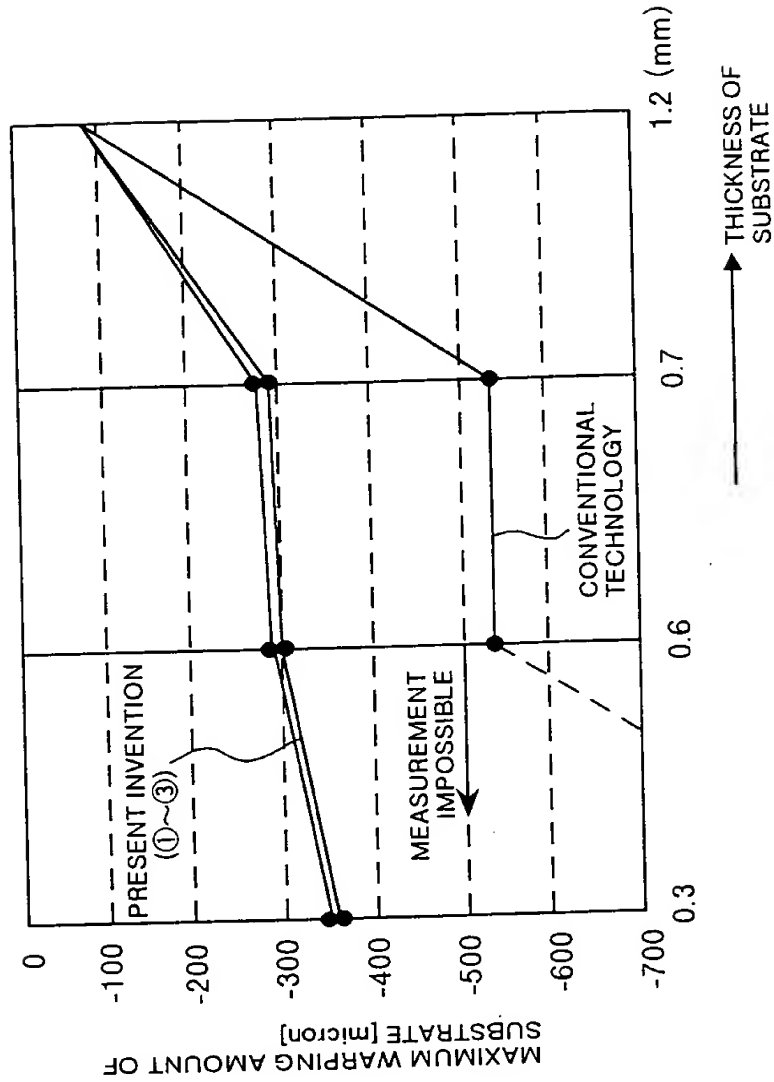
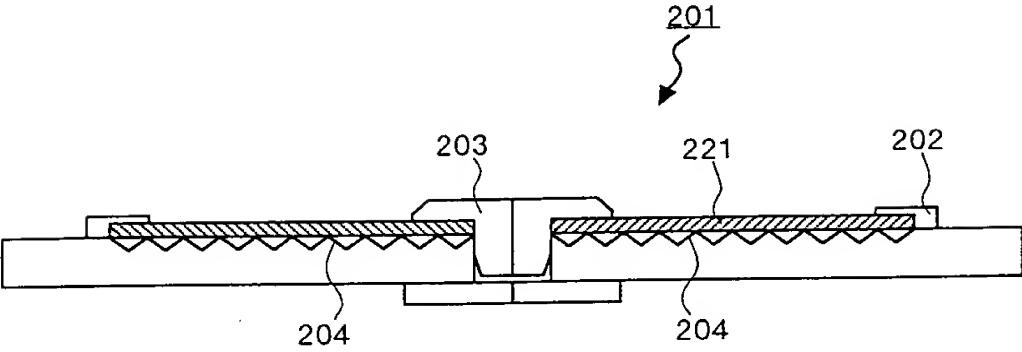
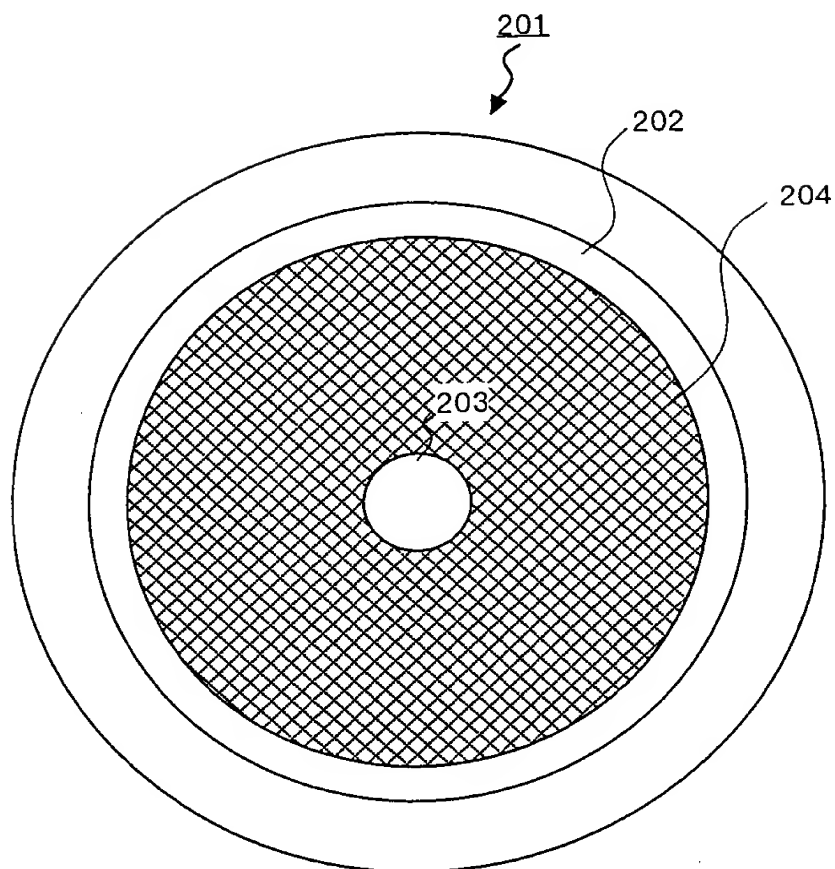


FIG.10



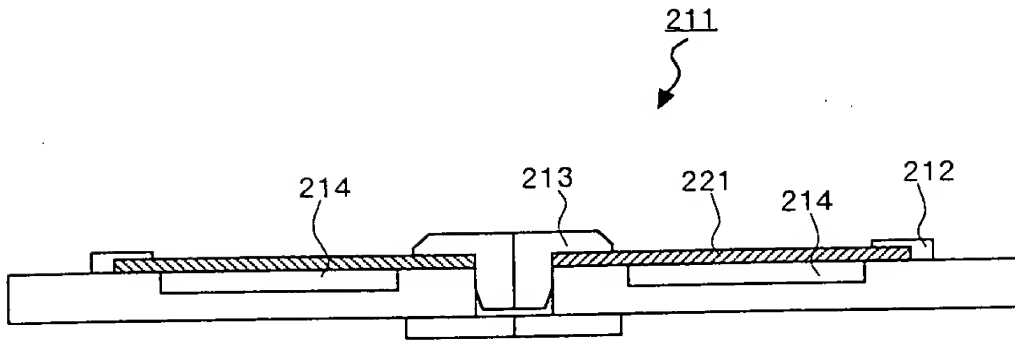
11/38

FIG.11



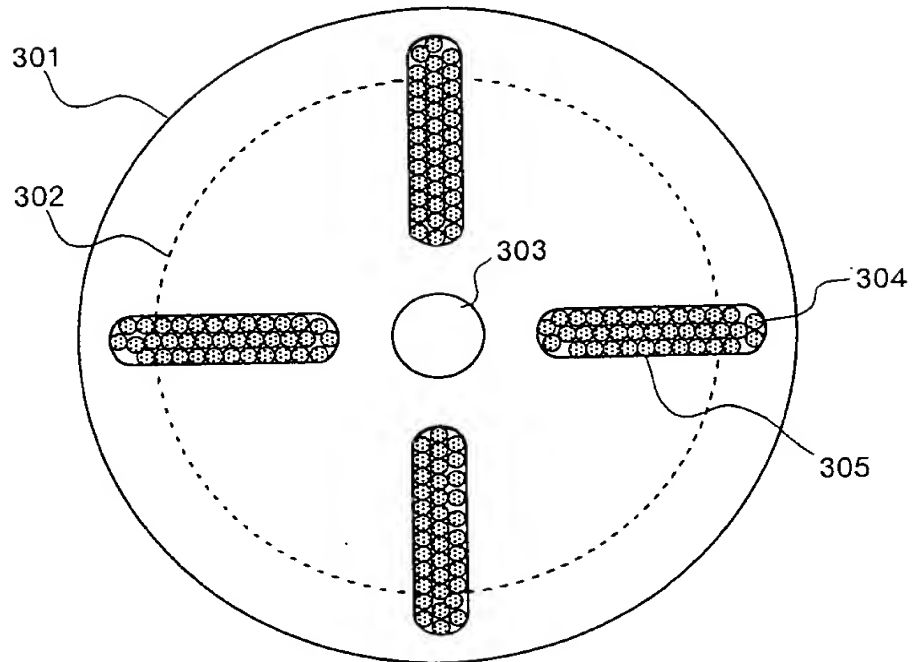
12/38

FIG.12



0557-499-3 SHEET 12 OF 38

FIG. 13



14/38

FIG.14

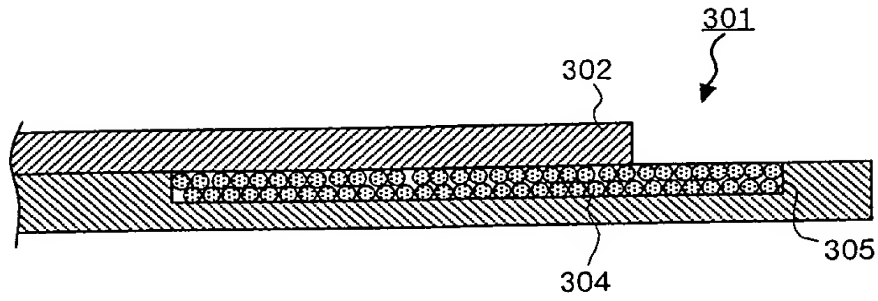
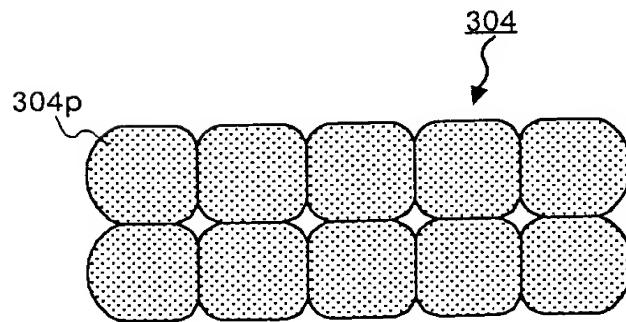


FIG.15



15/38

FIG.16

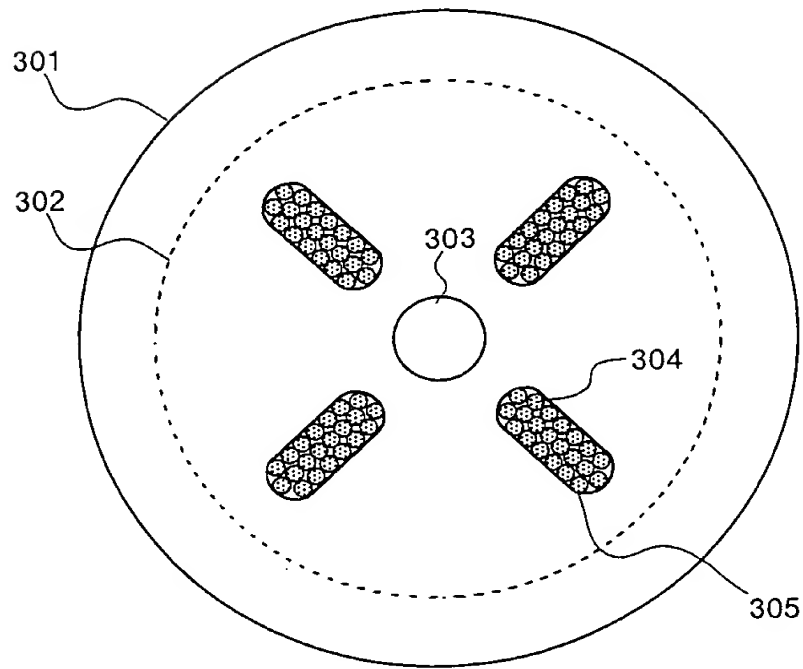
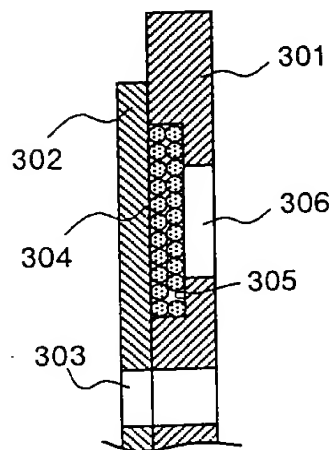


FIG.17



16/38

FIG.18

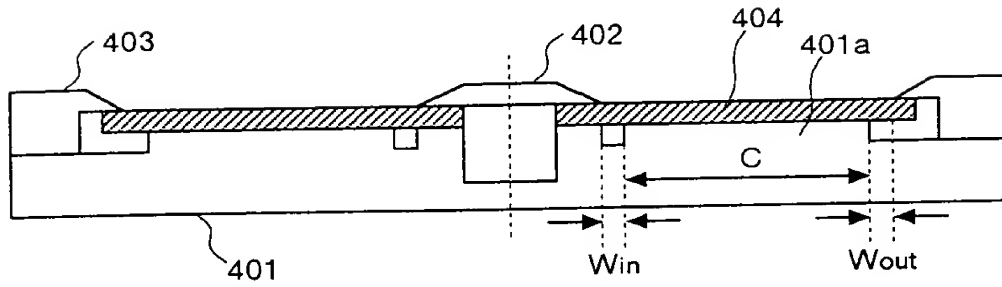
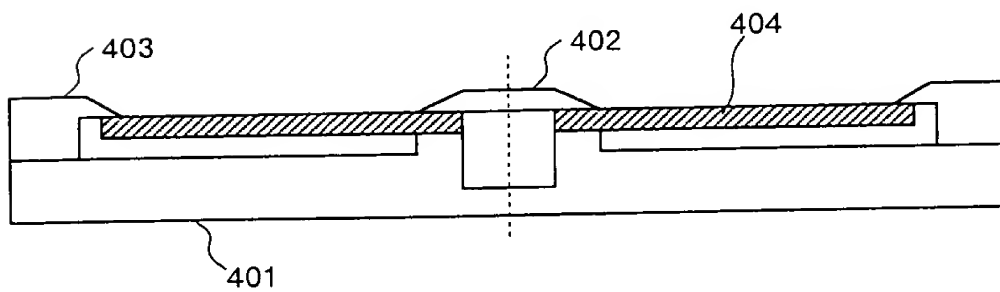
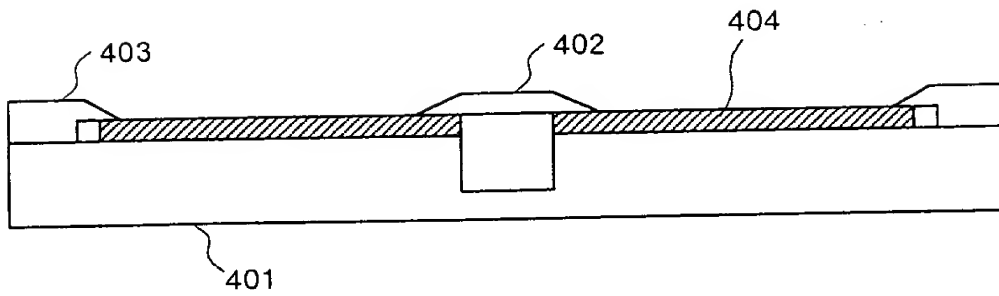


FIG.19



17/38

FIG.20



18/38

FIG.21

SUBSTRATE OR FILM-FORMED LAYER	MATERIAL	THICKNESS
REFLECTION LAYER	Al ALLOY	160nm
UPPER BASE PROTECTION LAYER	ZnS·SiO ₂	30nm
RECORDING LAYER	Ag-In-Sb-Te	20nm
LOWER BASE PROTECTION LAYER	ZnS·SiO ₂	180nm
SUBSTRATE	POLYCARBONATE	0.6mm

FIG.22

TYPES OF SUBSTRATE HOLDER	WARPING RATE OF SUBSTRATE (μm)
SUBSTRATE HOLDER SHOWN IN FIG.18	100
SUBSTRATE HOLDER SHOWN IN FIG.19	>400
SUBSTRATE HOLDER SHOWN IN FIG.20	100

19/38

FIG.23

NO.	WIDTH W _{in} FROM AN INNER MASK TO A SUBSTRATE HOLDER EDGE (mm)	WIDTH W _{out} FROM AN INNER MASK TO A SUBSTRATE HOLDER EDGE (mm)	WARPING AMOUNT OF THE SUBSTRATE (μm)	A NUMBER OF UNSUCCESSFULLY LOADED SUBSTRATES AMONG 100 SHEETS CONTINUOUSLY FORMED
1	4	1	100	0
2	4	0	100	20
3	4	0.5	100	0
4	4	3	100	0
5	4	5	100	0
6	4	6	150	0
7	4	7	200	0
8	1	1	100	20
9	2	1	100	0
10	5	1	100	0
11	7	1	100	0
12	10	1	100	0
13	11	1	120	0
14	12	1	150	0

FIG.24

NO.	TAPER ANGLE θ IN SUBSTRATE HOLDER EDGE (deg.)	WARPING AMOUNT OF THE SUBSTRATE (μm)	PRESENCE OF A DAMAGE ON A SUBSTRATE CAUSED BY SUBSTRATE HOLDER EDGE SECTION
15	0	100	YES
16	0.5	100	YES
17	1.0	100	NO
18	1.5	100	NO
19	2.0	100	NO
20	2.5	150	NO
21	3.0	200	NO

21/38

FIG.25

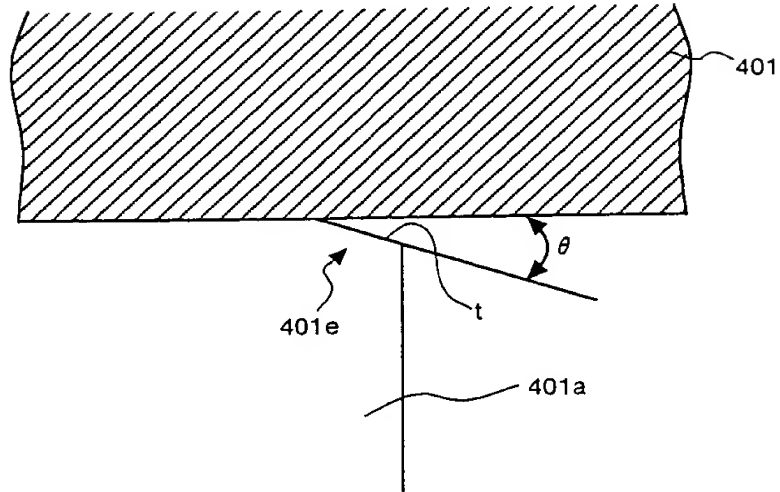


FIG.26

NO.	WIDTH H OF SILICON RUBBER IN SUBSTRATE HOLDER EDGE (mm)	WARPING RATE OF A SUBSTRATE (μ m)	PRESENCE OF A DAMAGE ON A SUBSTRATE CAUSED BY SUBSTRATE HOLDER EDGE SECTION
22	0	100	YES
23	0.1	100	NO
24	0.3	100	NO
25	0.5	100	NO
26	0.6	120	NO
27	0.7	150	NO

This diagram shows a cross-sectional view of a semiconductor device. A large, hatched rectangular block at the top is labeled 404. Below it, a smaller, hatched rectangular block is labeled 405. A vertical gap or trench is formed between these blocks, with its width labeled H. The left side of the trench is indicated by a dashed line and labeled 40e. The right side of the trench is indicated by a solid line and labeled 401a. Two horizontal arrows point towards each other within the trench, and a wavy line points to the right side of the trench.

25/38

FIG.29

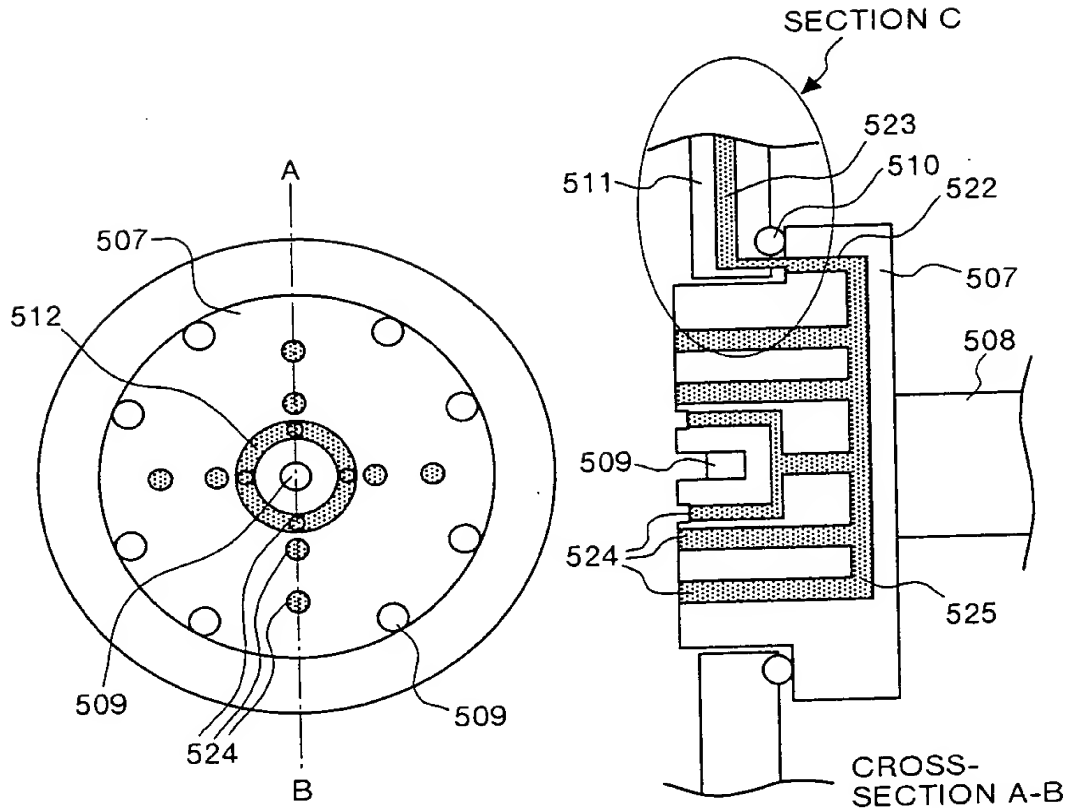


FIG.30

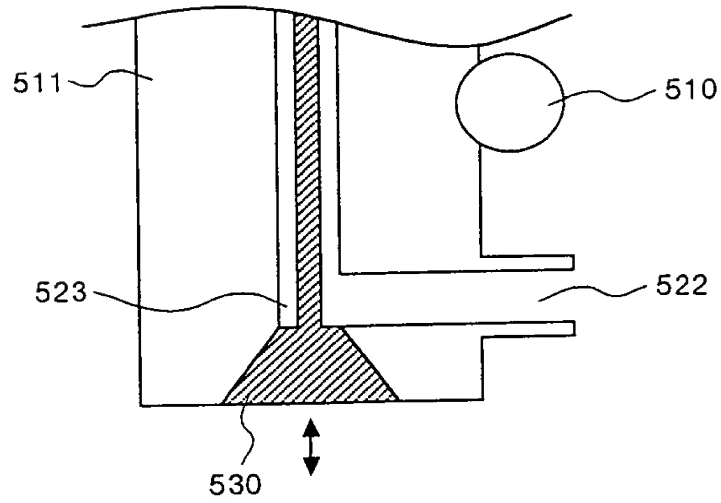


FIG.31

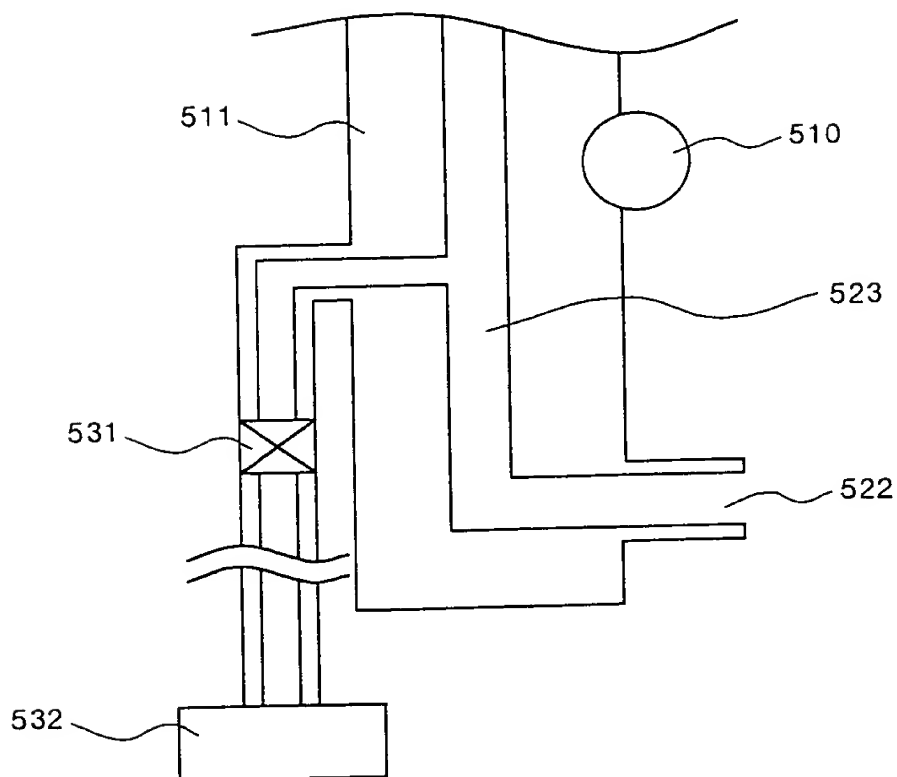


FIG.32

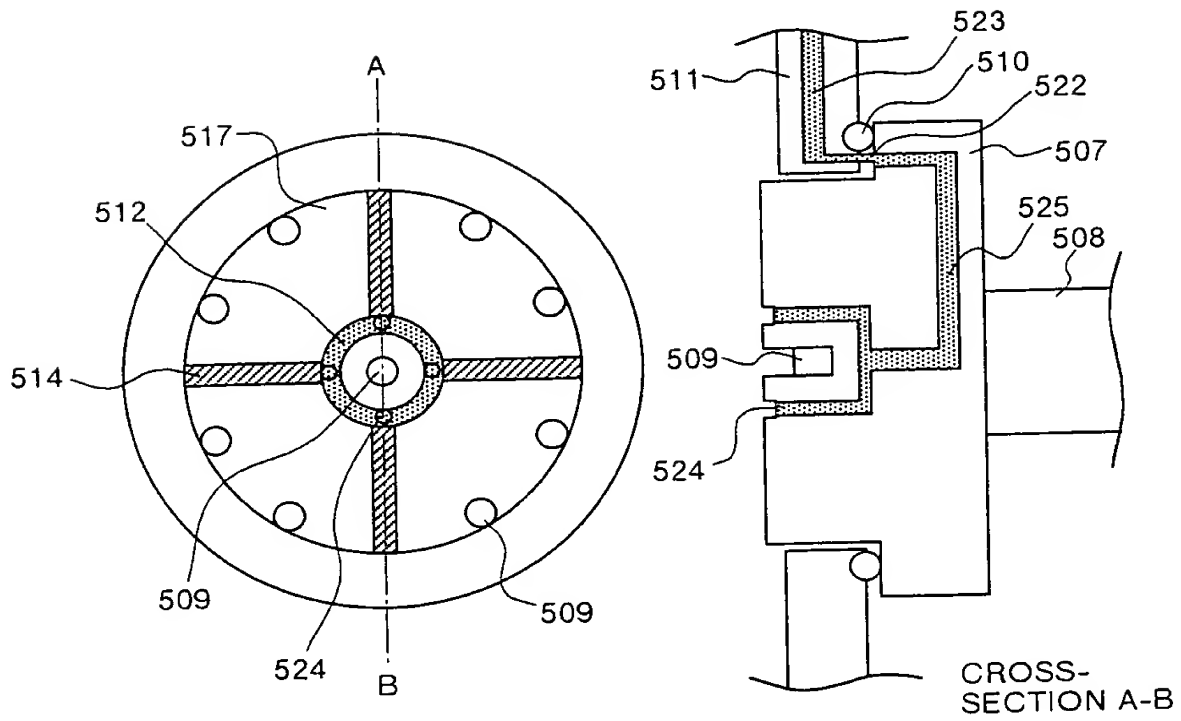
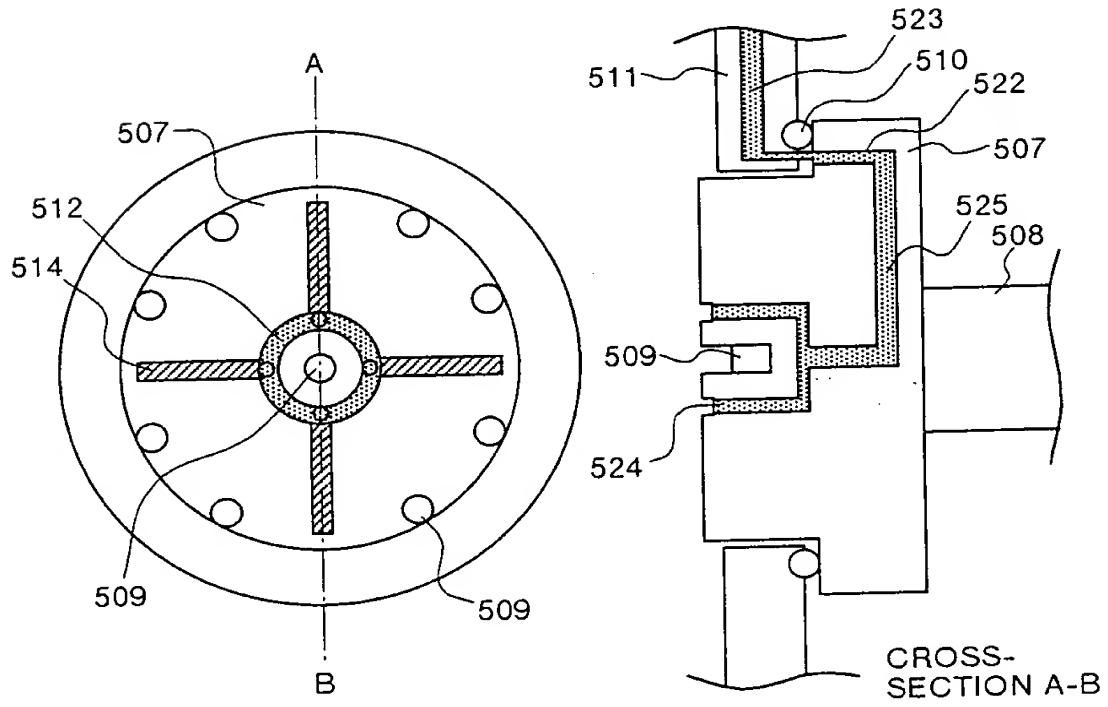


FIG.33



30/38

FIG. 34

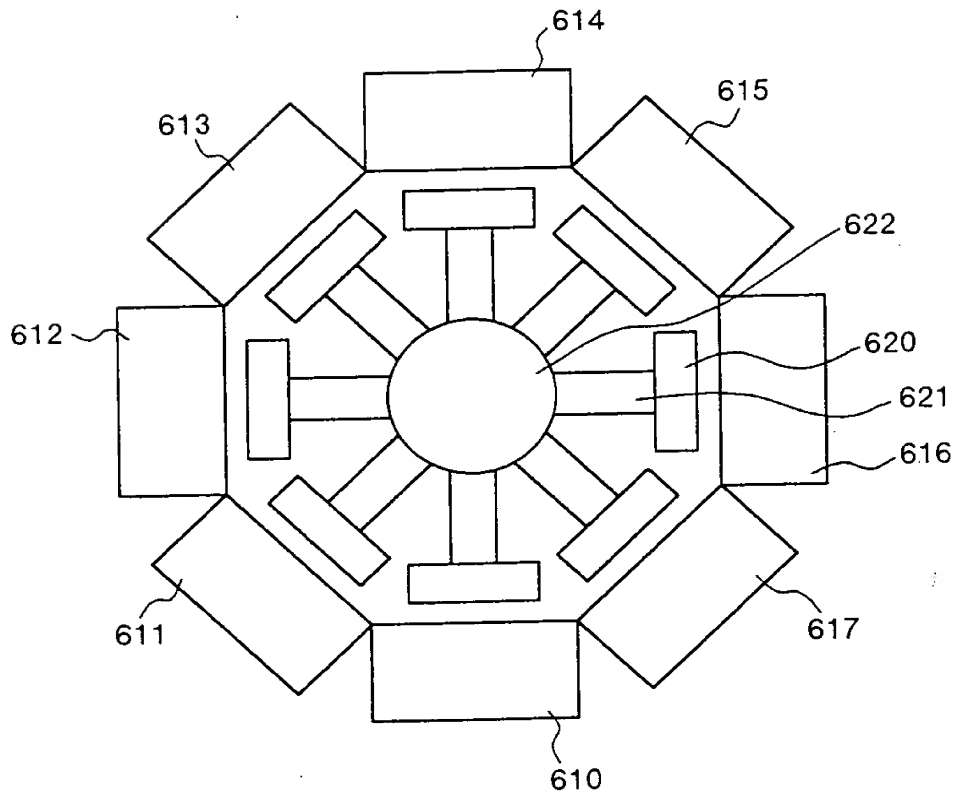
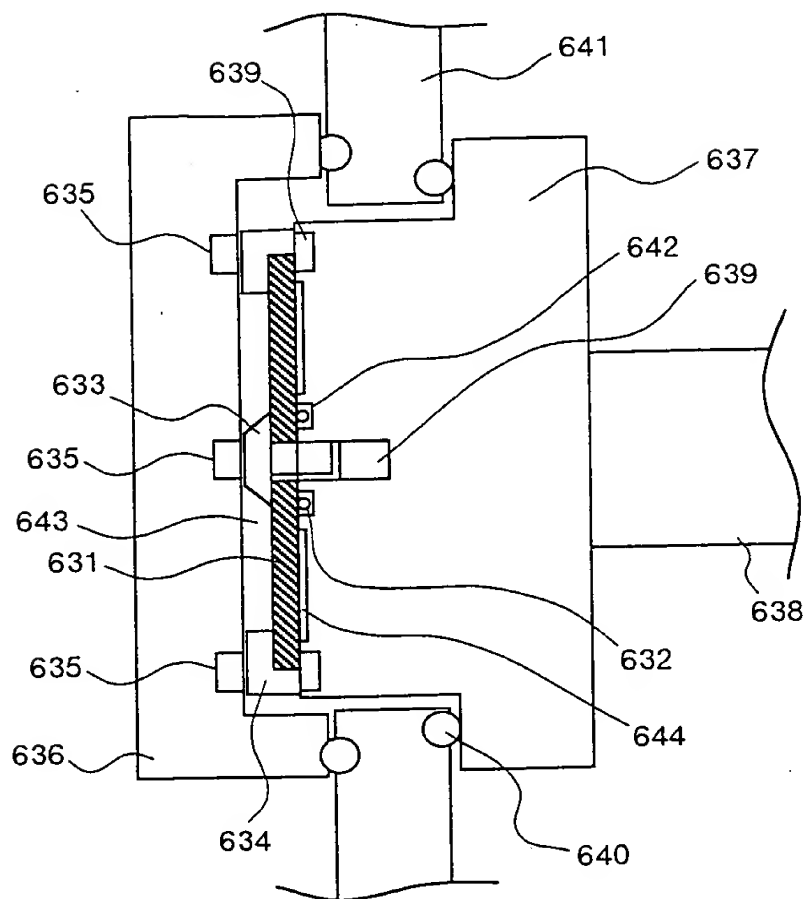


FIG. 35



32/38

FIG.36

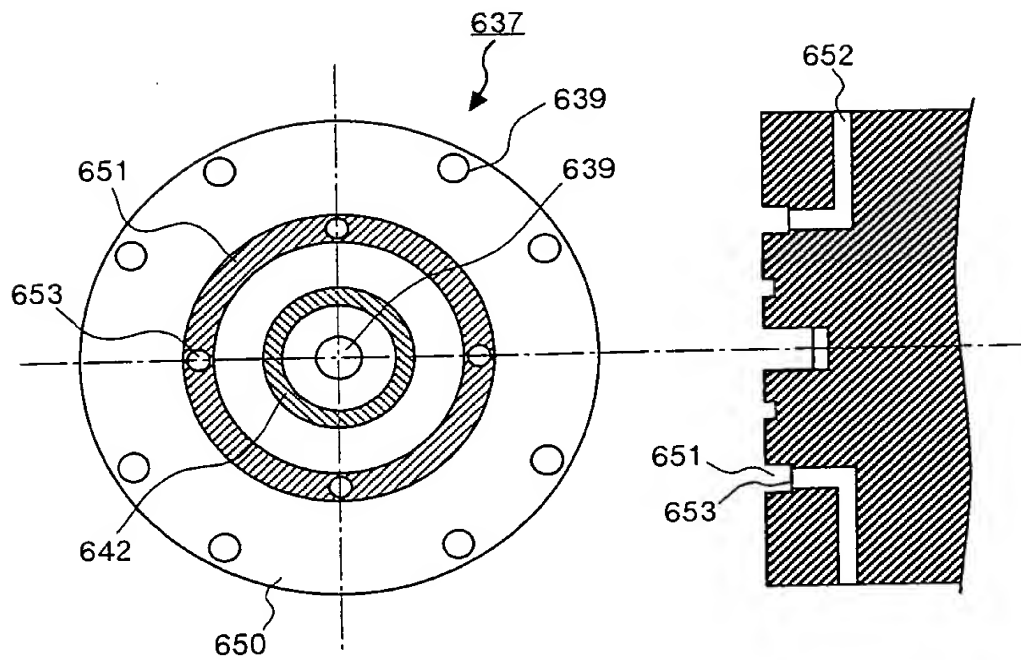
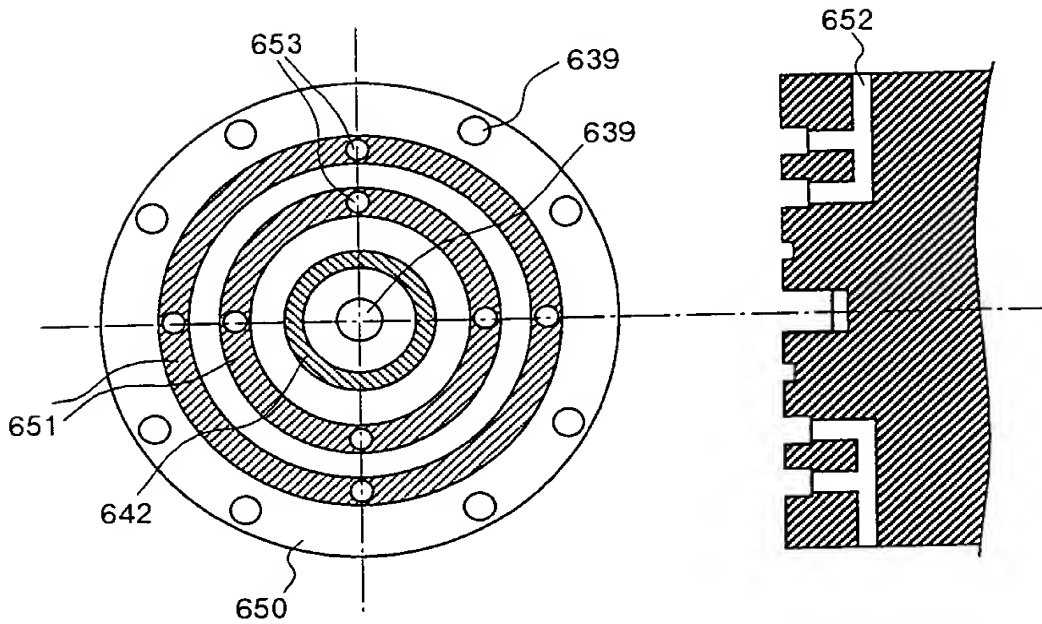


FIG.37



34/38

FIG.38

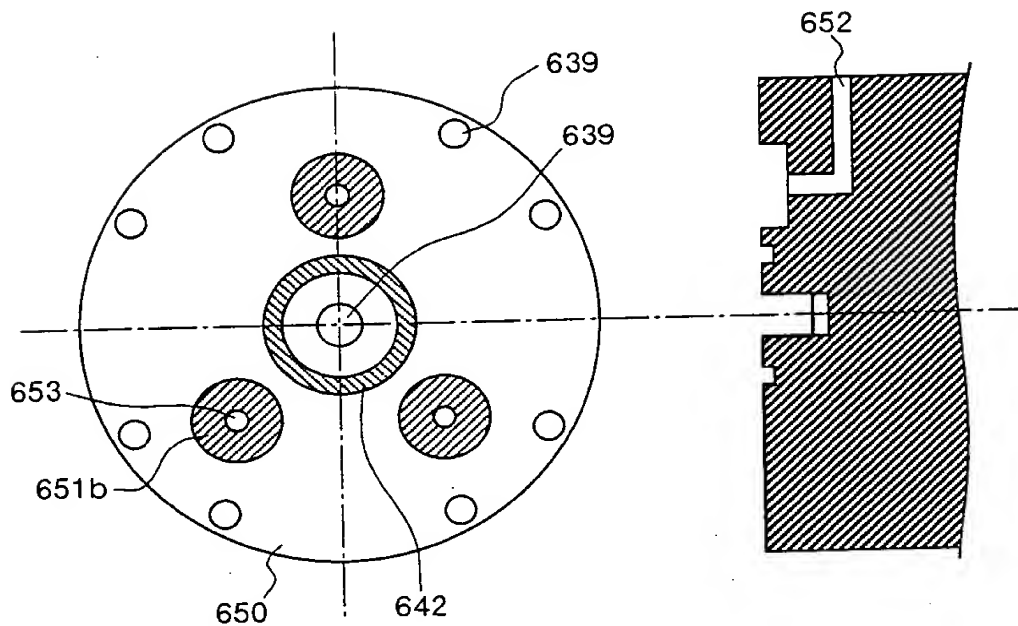


FIG. 38 is a technical drawing showing a top view and a side cross-sectional view of a circular component. The top view on the left is a circle with a central circular feature (642) and four surrounding circular features (651b). The outer edge has eight small circular features (653). A dashed line indicates a cross-section through the center. The side view on the right shows a cross-section of the component with a central cavity (652) and a central feature (650). The component is labeled with various reference numerals: 639, 639, 653, 651b, 650, 642, and 652.

35/38

FIG.39

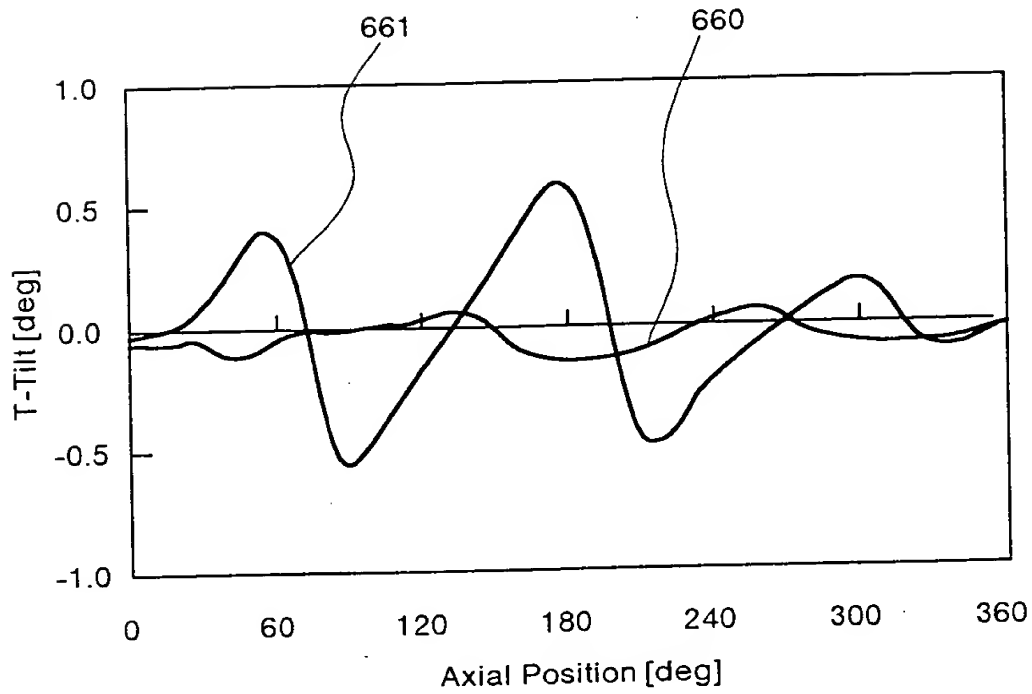
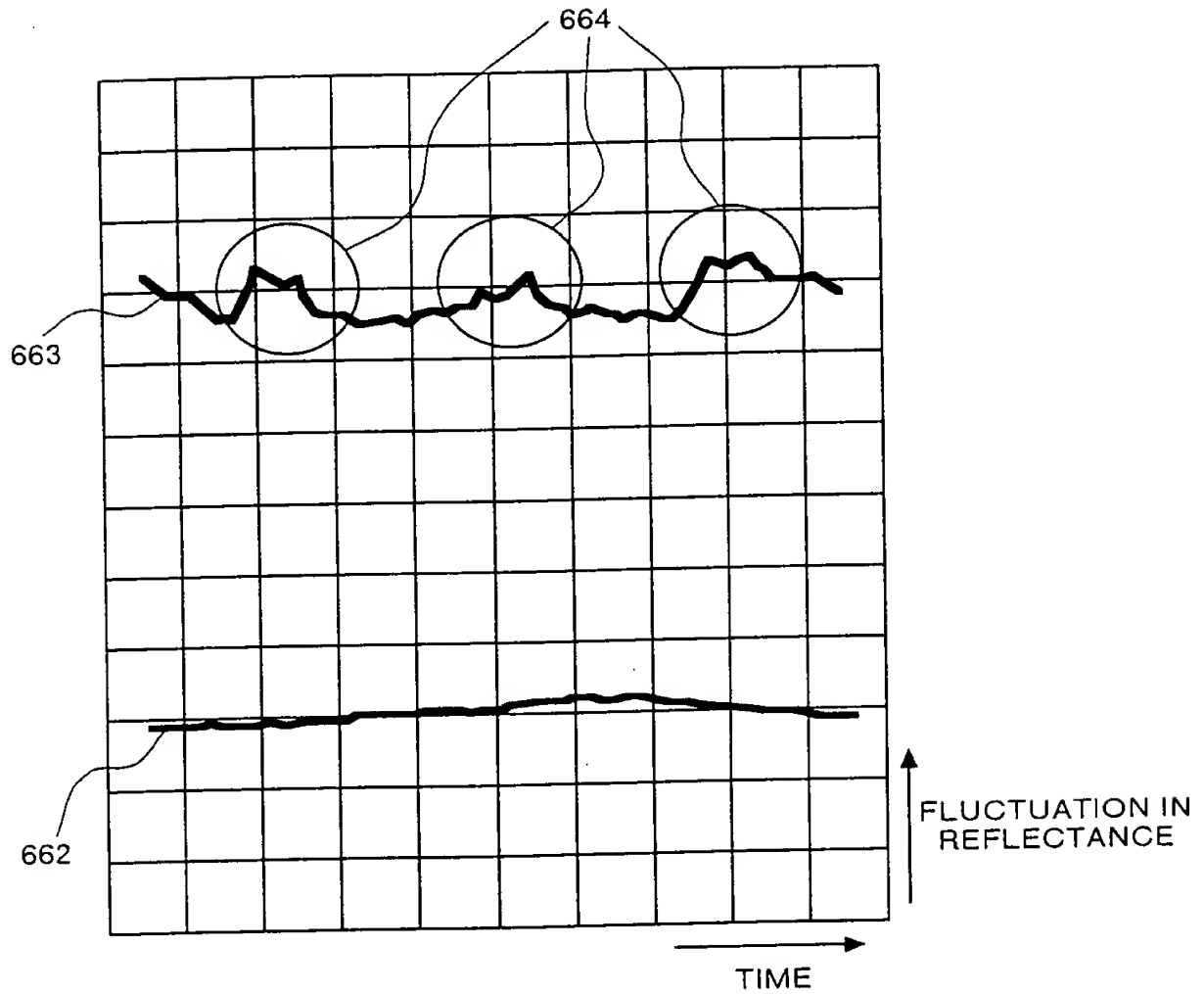
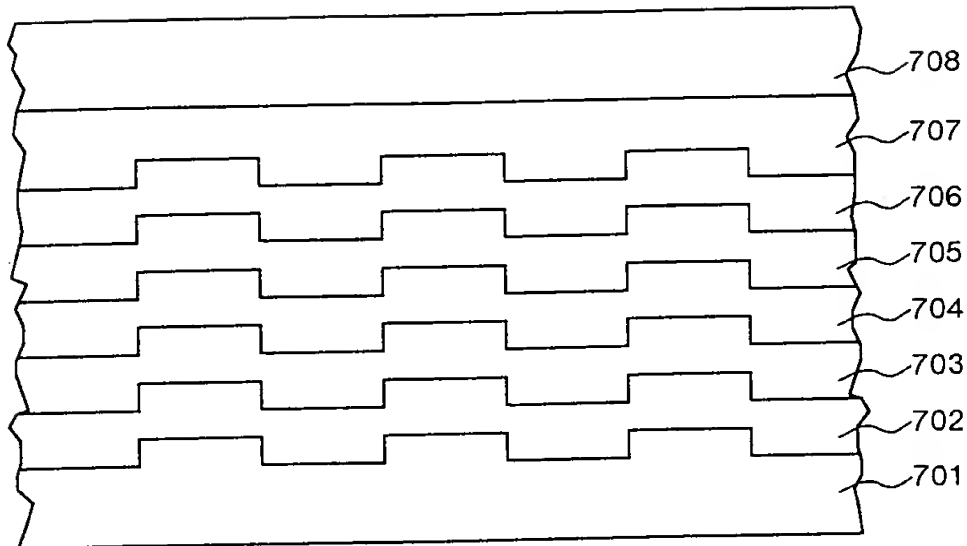


FIG. 40



37/38

FIG. 41



38/38

FIG.42

